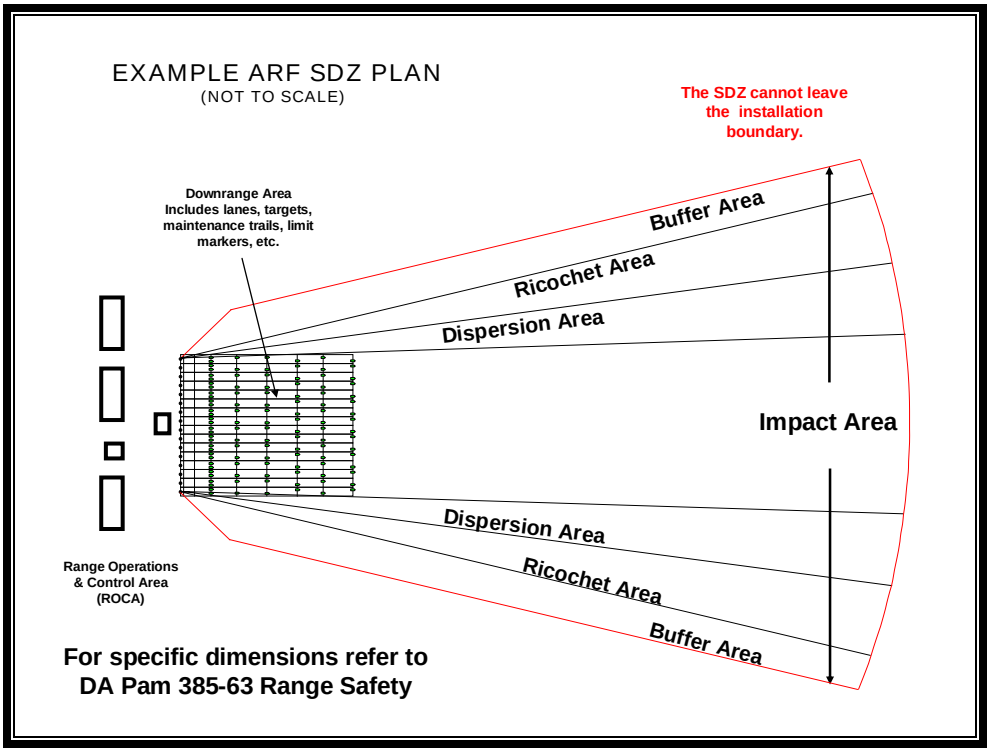
AUTOMATED RECORD FIRE (ARF) RANGE SURFACE DANGER ZONES (SDZ)



Definition per DA PAM 385-63: The ground and airspace designated within the training complex (to include associated safety areas) for vertical and lateral containment of projectiles, fragments, debris, and components resulting from the firing, launching, or detonation of weapon systems to include explosives and demolitions.

The Surface Danger Zone (SDZ) is a depiction of the mathematically predicted area a projectile will impact upon return to earth, either by direct fire or ricochet. The SDZ is the area extending from a firing point to a distance downrange based on the projectiles fired. This area has specific dimensions for the expected caliber of the weapon(s) being fired so that all projectile fragments will be contained in this area. These dimensions are found in DA PAM 385-63 - Range Safety.

While this area is not considered part of the range design, it is one of the deciding factors as to the location upon which the range facility can be built and the orientation of the lanes and targets. Typically, a composite SDZ is generated to encompass all firing points and the firing of several different caliber weapons. It encompasses all weapons within the largest SDZ footprint. No part of the SDZ may leave the installation property. SDZs from different ranges may overlap, but no SDZ will fall on a part of another range where soldiers are training.

General: The ARF contains targets that extend to 300m downrange from the firing line. The SDZ extends an additional 3137m beyond those furthest targets when firing 5.56mm M855 ball ammunition.

Note: The SDZ depicted is an example only. The facility diagram is a generic layout from TC 25-8. The SDZ will differ from an actual SDZ based on a constructed facility.

Note: For proper handling, transportation, and storage of ammunitions and explosives please refer to DA Pam 385-64 Ammunition and Explosives Safety Standards.

Deviations: In some circumstances, installations may pursue a deviation for some SDZ criteria and use an adjusted SDZ. This is solely an installation decision and is based on having mitigating factors, such as a mountain to block projectile travel. If truncating the SDZ is necessary to the success of the project, the designer may consider adding baffles to the range. Properly designed and constructed baffles will limit the range of fire and the area the projectile travels. Contact the RTLP MCX for details on baffle design.